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ABSTRACT

Proposing the theory that adult basic writers can learn to write better if they are taught to understand the mental processes that writing requires, this paper presents a brief teaching guide for systematic instruction in these processes. The paper first examines how ideas develop and then outlines the mental processes in rhetoric. Discussions of the various lexical ties that relate sentences and ideas, and of the mechanics of writing follow. The latter half of the paper presents the content of a course in basic writing based on the thinking and writing theory, including course activities, objectives, and tests. A summary of an experimental study of this theory concludes the paper. (HTH)

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TYING THINKING TO WRITING: THEORY AND TEACHING

by

Carolyn G. Hartnett

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Expanded Form of

A Paper Presented at the Annual Meeting of the Conference on College Composition and Communication (32nd, Dallas, TX, March 26-28, 1981)

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TYING THINKING TO WRITING: THEORY AND TEACHING

NEED FOR A THEORY

What does anyone need to know in order to write? Quick answers to this question suggest many things, all of them appearing to be basic. Writers need to know a language, the ideas they want to express, ways to organize the ideas for expression. Longer reflection raises problems with these answers. What do writers need besides what they know to speak language? How do they form their ideas for expression? Can they have ideas without words? Why do they want to write in the first place? How do writers improve their first hints of ideas? How does a collection of notes become a coherent persuasive essay worth the time of readers?

An answer to these questions must discuss how ideas develop, how someone can turn new ideas into written prose, and what such processes require. Of course these steps are not always straightforward. A classroom essay assignment may precede choosing the topic, and sometimes an idea seems to lack all existence in a mind until words appear to create the concept. Often writers reviewing their completed drafts finally discover what they want to say. The process is confused, and student writers want to know everything at once. Teachers of basic writing need to look at the whole writing process to determine what they should teach, remembering that adult students are not children.

HOW IDEAS DEVELOP

An idea begins when a mind confronts the world, either directly or symbolically. Imagine a mind unconscious, asleep, wandering, or dulled by the buzz of the conversation at a cocktail party or the traffic on the street. The mind may be idling amid a confused flurry of light and dark images on the retina. Suddenly something snags the wandering mind, stops it, hooks it, and holds it. The hook might be the thinker's name, the cry of her child, or lines that resemble a symbol that once had meaning for that mind. The hook involves the motives of the mind and all its previous knowledge. The hook causes a pause for attention. With that pause, the perception begins to become an idea. A sleeper awakes.

Consider, for example, what your own mind might do when it confronts what is on the page at the end of this reading. That page could contain a picture, a word in any language, a name, an outline, a symbol. What is it? (Don't look now.) Will your mind stop to peruse it, or will you turn to the next page without paying any attention? If you pause, what discrete mental processes occur?

To attend to a perception, a mind focuses on it, to look at it more sharply and to verify its supposed identity. The mind sees just enough to attribute some possible value to the perception. Does the vision fit the mind's expectations? The mind might compare the perception with a pattern of previous exposures, trying to recognize enough familar details to predict what follows, what

is unseen or unheard, what is blurred or whispered or hidden in any way. It tries to make sense.

The mind tends to name the perception, or at least to associate it with previous similar items that had some meaning in the past. Naming the idea makes it easier to handle and gives a tool for controlling it. Naming also classifies it, grouping it with similar items, perhaps limiting it. Classification categories may help to explain the idea, or they may constrain it wrongfully, especially if they are applied too early.

The mind may recognize that something does not make sense. It may go back with a sharper focus and closer attention to recheck the facts perceived. It distinguishes small details that make a difference. Before it wanders or explains the perception as an error, an irrelevancy, or a joke, the mind will try to create a setting where the perception would make sense. At this point it is performing the very complicated process of inference. The mind may need to create and test hypotheses. This mind is reasoning.

Then the mind plays with the idea: Arranges it in order, sees when it existed, wonders if it exists at all, looks for its causes, examines its effects, and relates it to all its immediate and ultimate goals and to the recurrent problems it is trying to solve. If it finds a place for the perception, it builds it in. It uses the idea in making a complete structure that constitutes its view of the universe. The initial perception has gained such value that the mind wants to express it, either to question it further or to persuade others of its reality.

Consider what happened. The mind became aware. It used its own motivation to respond to what interested it. Its motivated response was quite different from reacting to a stimulus in a manner exactly the same as that of every other animal brain that had been trained to do the same. The mind had its own purposes. It chose to pay attention to what had significance for it. Then it sharpened focus and perceived details, both independently and in patterns. It searched the context for clues. It set expectations. It attempted to predict a classification to define the perception. It compared the perception with items similar to it either literally or figuratively. The mind recalled the associations of the perception in past experience. It contrasted the perception with what it was not; it might have distinguished it from its setting in time and place.

The mind abstracted the essential features of the perception and then tried to reorganize them into something with meaning. Perhaps the perception suggested an incident in a story or a step in a process. It might have been part of a problem or its solution.

The mind might have realized that it beheld not just a part of a whole thing but something so complex that it had to be divided before it could be analyzed and explained. The mind might have rejoiced at a flash of intuition that related features which it had not known were related. Something began to make sense. When the mind realized how one thing related to another, it found meaning. Maybe it summarized the meaning and embedded it

in more complex structures. The mind wanted meanings because they showed how two things relate, and if any two things relate, then perhaps other things relate, and perhaps the whole universe could make some sense. So the mind elaborated on the perception and continued to manipulate it, going back when necessary through all the processes by which it had discovered meaning. As the mind reviewed the perception, it literally saw it again, but with a more informed perspective. The mind realized the meaning of the perception and evaluated it as a full-fledged idea. What it did not like or could not make sense of, it changed: it revised, modified, expanded, deleted, reorganized. What the mind could not deal with, it rejected. What it accepted, it wanted to express and communicate.

When writers want to communicate an idea, they go through many of the processes of the perceiver. Good writers are aware of the purpose that motivates their writing. They attract the readers' attention to significant details. They describe, list, classify, define, compare, contrast, negate, narrate, reason, divide, repeat, elaborate, modify, organize, pattern, coordinate, subordinate, etc. The mental processes become rhetorical processes. Writers give readers materials to recreate perception.

Now when and where did most competent writers first learn these procedures to use in composing? Probably not through specific lessons on each at various stages in their formal education. Most competent writers and teachers of writing learned these composing steps as mental processes. They recognized them in reading. They used them in speaking, and they spoke often. They used them in thinking. If they ever received

formal instruction in them, it was only later, after long practice. Even then, the instruction probably only asked for application of the processes. Courses in writing and speaking often assumed that the prior mental skills have already developed without specific teaching. Instruction usually covers only the veneer of such topics as the fine points of definition, formal outlines, and labeling similes and metaphors and parts of speech.

Most people who become teachers learned the mental processes so naturally themselves that they never think of teaching them. However, some adult basic writing students need help to perform these processes and express them in writing. In Piagetan terms, they cannot do formal operations. All students get a good start from realizing that they already have skills that they can use to think up something to write, some things worth writing; a review of mental processes gives them a heuristic device to gather concepts already in their heads. Yet some students do not focus their attention on a single topic when they write. Some have trouble with classification and abstraction, even with negation and contrast. Some are not precise. Some find arithmetic hard, and some confuse the concepts behind almost and barely. Many cannot do the thinking that college courses require; they need help.

Few students have much experience writing, so they need a chance to develop a writing fluency. Often students write as they speak, not realizing how writing differs from speech. They must slow down to consider a reader's need for information that is not spoken, such as the meaning of now. Too many people believe that polished writing always flows smoothly from the pens of skilled writers. All need to feel authorized

to write.

Adult basic writing students already have complex thoughts that are longer than a single sentence. These students have experience. They know they often must evaluate and make decisions before all the facts are in. However, when they try to write fairly, they seem indecisive. When they try to write in an orderly manner, they are not aware of the strength of different ways of arranging material. No one ever convinced them to do more than tell how they reached a conclusion in order to persuade readers of the general truth of that conclusion. Thus they need systematic instruction in the mental processes that writing requires.

In the absence of research proving a clear developmental sequence of these mental skills, an instructor can only try a practical sequence. Simple steps must precede the complex steps that include them. Purpose or motivation is basic, of course. Attention must come before extended discussion of perception and detail. Always, of course, there is re-cycling. Some details are similar, and some are different; the two types need related discussions. Simple arrangements by space and time precede logical arrangements of cause-effect reasoning in problem-solving. Definition may come very early, as identification, or later, after analysis of all the details. Patterns may appear early or late. Abstracting is related to defining and summarizing. Revision too early can inhibit fluency. The sequence of steps is important but variable.

Instruction on thinking skills may surprise adult basic writing students who are not aware of the true difficulty of writing. Often they say their problem is someone's judgment of their grammar or spelling. Such surface details distract them from the deeper problems of writing: changing shapeless ideas into forms that minds can manipulate. One way to avoid this mechanical distraction is to promise a later time for error analysis and polishing, but to start off with a stimulating problem. The right problem can motivate thoughtful writing. Its solution can reach the students to perform the next step. The difficulty of the problem challenges them.

When students need to learn how to perform a mental process to learn something new, the instructor must teach it, not just foster it. Teaching a process means defining it, dividing it into parts or steps, and demonstrating it, as well as supervising practice of it. Demonstrations using student ideas can be exhausting for instructors but extremely beneficial for students.

When students can do something (making comparison, solving a problem) at the end of a week that they could not do at the beginning, they have learned something. They feel good about their learning. After they have written something worth communicating with precision and polish, editing has more value than exercise drills. Students then want to improve and revise. In revision, their draft improves. However, to revise they first must shape their frameless thoughts into a firm rhetorical form.

MENTAL PROCESSES IN RHETORIC

A system of effective communication is known as a rhetoric. Writers are concerned with rhetoric whether they know the word rhetoric or not. Rhetoric is gaining renewed interest now for several reasons. One is that the public is becoming aware that the techniques of rhetoric can have effects that are good as well as bad. Since these techniques have the power to sway opinion, they are useful to everyone who wants to communicate. They are useful for people who are not advertisers, politicians, liars, poets, or preachers. All kinds of sociable people want to influence others. Thus they want to know more about many rhetorical techniques as well as about body language. People want to know about rhetoric because they want to communicate more effectively, and rhetoric is a system by which they can learn to do so.

Rhetoric teaches a process. Students have little interest, beyond a grade, in producing for a teacher a technically perfect paper. Teachers who want papers that exemplify the punctuation of coordinate conjunctions may mark up the papers with red ink until they get what they want. Students learn the punctuation quicker when they want to express coordinate ideas. Student writers are practical.

Perhaps behind the interest in writing as a process, not a product, is an existential philosophy of doing. At any rate, a renewed interest in rhetoric has spurred both research and textbooks on neo-classical rhetoric; it has resulted in new courses and graduate programs in rhetoric. English teachers are realizing that there is a growing body of knowledge about teaching

composition. A new journal, Research in the Teaching of English, started in 1967 to report studies with implications that writing teachers need to know. Research takes a long time to filter down to classroom teachers who were trained before the date of the research by professors trained eons before that.

Teachers want to know about rhetoric because it is a constructive response to public complaints about poor writing. It is realistic and positive. It can present a list of steps. There is, however, some danger that teaching rhetoric oversimplifies an extremely complicated process. The public clamoring for a return to the "basics" may believe that grammar is the only basic; they may become aware of the rich traditions of rhetoric, but writers need more than grammar and rhetoric.

The human desire to communicate is a true basic. Turning a shapeless idea into a sensible string of words is a basic challenge. Rhetorical principles try to meet the challenge. Many of the principles that have survived since the days of Aristotle have bases that cognitive psychologists are now demonstrating. It is worthwhile to look at their work on the ways in which the human mind operates and then to relate them to traditional rhetorical concepts. Let us scan their theories and research.

The Active Mind

Cognitive psychologists are still working at building a model of how the human mind operates. They begin by assuming that people are active. People seek out information; they create their own internal model of the universe; they act on that model to influence their environment; they evaluate

their success; and they revise their models and plans according to their own motives. People have motivation beyond simply responding to a stimulus.

Cognitive psychologists assume that complex thinking arises from a small number of intellectual processes and that linguistic features reflect the processes. These cognitive or mental processes are the ways by which a human mind directs its attention, observes significant details, and relates those details to previous experiences so as to find or create meaning and to build it into its universal understandings.

Basic mental processes in the study of cognitive psychology include attention, perception, abstraction, problem-solving, learning, memory, and using language (Lachman, Lachman, and Butterfield, 1979). This list has various parallels in categories of educational objectives. For example, Bloom's cognitive levels are knowledge, comprehension, application, analysis, synthesis, and evaluation; and his affective levels are attending, responding, valuing, organizing, and generalizing the value (1956, 1964). These lists of mental processes and types of educational objectives relate to the analytic methods of inventing content, as we shall see, and to the five parts of classical rhetoric: invention, arrangement, style, delivery, and memory. These are the considerations for rhetorical form.

Cognitive psychologists have not yet determined the form of what people understand: Is it a linguistic proposition or some visual analog? Research has not yet shown exactly how the human mind stores and recalls ideas, but psychologists assume that

representation is central. Representation, of course, goes beyond language. Words and concepts have separate storage in all of the major competing models (Lachman et al, pp. 128 ff). The theorists assume that to understand a word, concept, or image, one must acknowledge its relationships to other words or concepts or things. Theorists on information processing have replaced the idea of associations that have no content with a notion of links that specify the relationships.

A new untested theory of sentence comprehension by Herbert Clark (Lachman, Lachman, and Butterfield, 1979, pp. 441-449) says that listener and speaker have a contract expressing their assumptions and expectations. The contract guides them to relate new information to known or given data by adding, bridging, and restructuring, to create a new cohesive meaning in the relationships. Let us consider how these theories work in rhetoric.

Mental Processes in Invention

In classical rhetoric, speakers learned to appeal to the pathos or emotions of the audience, through their own ethos or ethics, with the logos or logic and knowledge of the subject. Rhetoricians relate themselves to their audiences as they invent their content, arrange it, style it, deliver it, and make it memorable.

Invention is discovering what to say. Brainstorming and meditation are examples of prewriting methods of invention. Other methods raise questions systematically with lists. Some use grids of perspectives or look at topics journalistically or as if they were dramas. These systems of invention, called

heuristics, guide an imagination as it wanders around an area, looking for supportive arguments.

When Aristotle discussed invention, he listed common places or topics for getting ideas of what to say. His topics for generating content have come to be taught currently as patterns for developing and organizing content. They include definition, comparison and contrast, exemplification, classification, and cause and effect. We still use these patterns because they have a psychological reality (D'Angelo, in press). They seem to be ways the human mind operates. The mind defines the focus of its attention; it perceives details that it can compare and contrast; it abstracts to find examples and classifications; it solves problems by analyzing causes and effects; and it learns relationships, remembers them, and expresses them in language for communication and further manipulation.What results from these processes?

People write to communicate, either with themselves or with others. This basic reason for writing pervades the process so thoroughly that anyone analyzing writing must begin with the writer's purpose. The analysis must include both the reader and the context. An effective writer considers what readers already know and what they need to know. The writer then shapes the content to meet the readers' needs. A writer needs to imagine the reader and the scene of the reading: the physical setting, the emotional mood, the degree of privacy, etc. These considerations of course influence style and organization as well as content.

Mental Processes in Arrangement

Invented ideas seek a structure; invention overlaps organization. The reverse is also true: A good way to think of items is to list them or organize them in some way. In 1620 Francis Bacon noted the natural human desire to assume and create structured relationships.

What do cognitive psychologists know today about the formation of classifications and abstractions? Little, but the nerves used in seeing create some type of early transformation or organizing during the synapse, since the human eye has more receptors than the optic nerve has ganglion cell fibers (Lachman et al., pp. 493-94). Thus perception cannot be passive. Observers must organize their perception to understand it themselves before they can report it to others. As a consequence, perceptive writing requires vision at some time; Emig (1978) states that none of the well-known blind writers were blind at birth. She suggests that writing requires setting firm figure-ground relationships so that the writer can focus and subordinate properly.

Children develop naturally in their ability to make groups (Bruner, 1956; Inhelder and Piaget, 1964; Britton, 1970, p. 205, Applebee, 1978). As children mature they learn to make increasingly high level abstractions (Moffett, 1968). Qualifying thought and elaborating sentence structure develop together.

Adult basic writing students are often good speakers with an excellent memory and a wealth of experience and information.

Yet they do not know how to push their shapeless ideas into a sensible line of words on a page. They do not know how to organize a system to pull the thoughts out of their heads because they lack experience with writing. They are not aware of the differences between speaking and writing, such as in the need to specify context in an introduction. As a result, they do not take advantage of all the resources of writing.

Students practicing organizational structures may realize how discovery or invention works. Using prescribed outlines may force them to put their ideas into the expected form. They discover new ideas to fill in blank spaces; they do the same thing that scientists do. Organizing an idea to write it forces and creates thinking. The thinking changes the thinker, as mature thought differs from beginning thought. Thinking develops through writing. Composition can test and develop unwritten ideas, improving them, with or without making formal outlines beforehand.

Since writing deals with things in their absence, it encourages learning how to deal with empty categories, such as those that occur in the future or in hypotheses. Students need practice in such dealings. Writing changes the nature of thought. It objectifies words for prolonged scrutiny, encouraging private reflection and skepticism (Goody & Watt, 1972). The consequences of literacy include the ability to analyze the past and to plan for the future. Organizing thoughts on paper enables writers to manipulate more items than their short-term memories can hold.

People use their tacit, personal expanding conceptual frameworks to accommodate and assimilate their experiences (Polanyi,1958).

When these conceptual frameworks are weak, practice on the mental processes in writing can strengthen the patterns to accomodate more experiences.

Different organizational frameworks have different effects. Researchers get unexpected results when they rearrange the information in a paragraph (De Beaugrande, 1978). This whole matter of psychological effects of arrangement needs more research. Perhaps disorganized presentations require readers to process them more deeply, and the deeper processing makes them better remembered.

An inductive cautious organization has persuasive powers in difficult situations. Such arrangement has been called a female mode of rhetoric (Farrell, 1979). Men and women differ slightly in their preference for various types of support (Hiatt, 1978). Regardless of the reasons for differences, writers who know all the forms available can make the best choice. Poor readers need extra help moving from linear sequences to heirarchies, (Hartwell, 1979).

Ideas are related in only a limited number of ways for Winterowd (1970): coordinate, obversative, causative, conclusive, alternative, inclusive, and possibly sequential. One way to analyze how sentences relate to another is to look at each sentence in linear order; another way is to find a pattern of repetition or spatial arrangement of the elements. The latter D'Angelo calls paradigmatic analysis (1975). He feels that paradigmatic and linear analysis are more helpful than the traditional concepts of unity and coherence when students look for patterns in writing. He questions whether children can

be taught structure or if they must discover it for themselves.

Linear thinking has its uses. However, a narrative of progress cannot substitute for the analytical thinking that college courses require (Flower, 1979). Students need to learn methods of logical and hierarchical organization so that they can express and comprehend ideas that linear or temporal patterns obscure.

After writers have chosen a pattern, they give readers cues that signal the organization. How to use these cues is part of instruction in reading. The cues also may indicate style, which has many features.

Mental Processes in Style

Styles differ in their degree of cohesion and detachment, according to Joos (1961, p. 38). The traditional studies of style classified figures and tropes as techniques used for comparison. Stylistic exercises still promote proficiency in writing, and so teachers such as Corbett offer them today (1971, p. 534). He quotes Quintilian, "Write well and you will soon write quickly."

As students mature and make increasingly explicit observations, they may notice similarities and inherent relationships in their short sentences, and they may naturally move to combine them. As children mature, they embed more ideas into the minimal terminal units that Hunt calls T-units, which consist of an independent clause and all its attached dependent clauses (1977). Children in grades six and ten have written syntax that was more

complex in argument than in description and narration (Crowhurst and Piché, 1979; Britton, et al., 1975, p. 2). Perhaps style reflects a writer's individual conceptual organization (Ohmann, 1964). At any rate, recent research has found that counts of T-units or such incidentals do not adequately predict the quality of adult writing (Emig, 1971; Nold and Freedman, 1977; Gebhard, 1978).

Cognitive psychologists have not yet agreed on the size of the smallest perceptual unit: letter, syllable, word, etc. (Lachman et al., pp. 492 ff.). They have experimental evidence, however, that people usually process simple, active, affirmative, declarative sentences faster than other sentences. People remember meaning, not form, but context influences the interpretation.

Mental Processes in Memory

Current theories about memory distinguish short-term and long-term memory. Long-term memory seems unlimited in size and time, but recall is difficult. The content of short-term memory is easily recalled immediately, but it is limited to about seven units (Miller, 1956). To increase the capacity of short-term memory, one can chunk material into larger units. For example, the first three digits in a telephone number are remembered as a single unit. The chunking principle suggests the advantage of classification schemes and hierarchical outlines over straight linear lists.

The cognitive psychologists seem to agree that lexical memory differs from visual or conceptual memory. Up to now, experimental

results have not clarified how the memories operate and connect (Lachman et al., pp. 298-334). Some modelers draw networks with nodes of meaning. Many modern researchers have found that pictures are remembered better than abstract words (Reynolds & Flagg, 1977). A dual coding system might account for this difference, but relating the two codes to each other remains a problem (Paivio, 1971).

Other differences in memories are between the episodic memory of autobiographical learning experiences and the semantic memory of facts and meanings. Semantic memory uses inference, which a hierarchical network model can provide for, but one such model (Quillian's) has problems with negative statements. Another network model (by Collins and Loftus) traces spreading activation through a network of concept nodes, each tagged to tell the relevance of the concept to other concepts. A third model of semantic memory compares defining features; this model, by Smith, Shoben, & Rips, uses the rhetorical concepts of definition and comparison. All models of memory must account for all the processes used in rhetoric.

A memory aid for Ramus, four hundred years ago, was the arrangement of categories in dialectal order. Earlier, Cicero and Quintilian used as memory aids the images that Aristotle said the mind thinks in. Words showing time made tenses more memorable in recent experiments by Harris and Brewer (Lachman, et al.,p. 433).

A reader's memory benefits from the use of transitional ties and repetitions of a small number of thematic tags (Hirsch, 1977). Writers' memories also benefit. It is easier to recall

succeeding sentences when the relationship between sentences is close. The degree of closeness can be measured by the number of repeated propositional arguments, according to Hirsch, who based his theory of readability on the work of many cognitive psychologists. He recommended that writers make their ideas memorable by delivering them with integrative devices such as transitions and repetitions.

Mental Processes in Delivery

Although modern rhetoricians often ignore delivery, it causes problems for basic writing students who are not yet accustomed to the demands of writing that differ from those of speaking. For inexperienced writers, writing can actually impede thought. Although oral situations provide their own audience and context, basic writing students must imagine the audience, supply the context and all the details needed, organize the ideas, choose strange words, and at the same time contend with the mechanics of spelling, punctuation, edited grammar and even the physical effort of handwriting. While they are expending attention on low level skills, they are distracted from their communicative purpose.

The differences between writing and speech are what make writing essential for the higher cognitive functions, such as analysis and synthesis. Careful analysis and synthesis require precise expression of classifications and relationships. As students shape their thinking into the precise form of written sentences and paragraphs, they sharpen it. Thus writing can

become a mode of learning, provided the writers are not distracted by the mechanics of delivery. Distracted students write less, and shorter essays have more mechanical errors (Slotnik and Rogers, 1973).

To avoid preoccupation with mechanical details, one can defer such concerns to the editing stage. Knowing the certainty of later time for editing can free an overloaded mind to attend to higher priorities first. This arrangement of the steps in composing is an advantage of the process approach to writing. An editing step makes a place for error analysis, which gives grammar an appropriate role.

Error analysis considers errors to be a natural, intelligent stage in incomplete learning; the specific errors indicate how far the student has progressed. Their pattern is a clue that the teacher can use to determine what the student is ready to learn next. The student's own writing also provides the context for communication via correct conventions. This perspective on error keeps grammar from becoming an end in itself that inhibits writing, especially for adult students. If they can speak and read simple English, they know more than enough to begin writing, regardless of what they may say, believe, or expect. Indeed, it is easier to do mindless drills on minute grammatical points than to order thoughts into communicative sentences and paragraphs. Certainly punctuation exercises are easier for a teacher to grade, but unless the student applies the point of the exercise directly to original composition, the exercise is useless.

Error analysis in the editing stage focuses on the surface features by which some critics judge the quality of writing. Error analysis allows the teacher to uphold standards of correctness of usage and spelling without detracting from the primary communicative purpose. It also provides teachers with motivation and materials for teaching correct usage without unnecessarily complex grammatical terminology. It allows a teacher to be eclectic in presenting points from many grammars. Traditional, structural, transformational, and case grammars all have strengths in explaining certain types of points. Other new grammars (Montague, functional, etc.) also contribute. Much of the value of knowing grammar is that it enables the teacher to analyze or diagnose a student's problem and to prescribe a remedy. Knowledge of grammar informs the explanation. Teachers of writing need to know a great deal more grammar than they teach.

Although editing is a late step in the writing process, the whole process is recursive. A decision on punctuation may make a writer realize that a single sentence makes two points, one of which needs an additional paragraph of explanation. Discovering such a need can lead to changes in organization. Thus in revision writers literally see the topic again and recycle through the complete rhetoric process.

When writers see again in revision, they become cognizant of what they want to say. They recognize it and want to make it real. They want to realize their once shapeless idea in solid words connected to each other.

HOW SENTENCES RELATE

Nothing means anything if it stands alone. For meaning, an item must relate in some way to something else. If items are not related, they are literally and etymologically irrelevant. One kind of relationship is that between a word and what it stands for in the objective world. Another relationship is the grammatical coherence between the words in a sentence. A third type of relationship is between sentences; it is called the cohesive relationship. A cohesive tie is a specific form in one sentence that relates to a specific form in another sentence in the text. If meaning is in relationships, and if cohesive ties express relationships, then cohesive ties are important carriers of meaning. It is worthwhile to look closely at the kinds of words that express cohesion. The following descriptions classify cohesive ties.

Lexical Ties

A piece of writing that makes sense stays on the topic. In doing so, it may repeat key words. Repetitions of a root are cohesive, even when prefixes and suffixes differ and when the meaning changes. Even puns are cohesive repetitions, although they have very different meanings.

Good writers need not overuse a single root word just to stay on the topic. Often they prefer synonyms or associated words that are near to being synonyms. Writers may name members of the same subgroup. Frequently they choose words more specific than the original word. They may use opposites or some other type of complement. They may need the semantically

related words that sensible readers expect afterwards, as heat and smoke after fire.

Writers name a higher level classification to make a generalization. The classification or category is cohesive because it includes the original item as a subset. The movement between general and specific words does more than make writing interesting; it is what a writer must do in order to support a major point with details.

Occasionally writers express their attitudes with a general noun. A demonstrative pronoun or the article the and an adjective may precede the general noun:

> The poor thing; this whole business; that matter, affair, place, question, or idea; these people or creatures.

General nouns can appear independently, without being cohesive. A test for any type of lexical cohesion is drawing a line between the two words in separate sentences that refer to the same thing or that use the same root.

Reference Ties

Both lexical and reference ties extend discussion of a topic beyond a single sentence. Reference words whose meaning depends on the content of another sentence are obviously cohesive. Examples are the third person pronouns (he, him, his, she, her, hers, it, its, they, them, their, theirs). Reference ties refer to a specific word, called the antecedent or referent. The only permanent meaning of these pronouns is number, gender,

and grammatical relationship. For a specific meaning, the reader or listener searches elsewhere, probably in the previous sentence, but sometimes in a sentence yet to come.

The only pronouns that are cohesive ties are third person pronouns. First and second person pronouns get their meaning from the context, not from another sentence. For speakers, the meaning of you and I is obvious, but writers have a more difficult task in revealing themselves and in identifying their intended audience. The referents for I and you do not change within a piece of writing, but she can mean a baby in one sentence and her grandmother two sentences later. The meaning of third person pronouns is whatever the antecedent is.

Demonstrative pronouns, like personal pronouns, refer to items named in a previous sentence. In addition, this, that, these, and those appear also in an adjective position before nouns.

I was bitten by two gigantic white cats.
Those (animals) frightened me.
My fear there was justified.

Ocasionally here, there, now, and then also point cohesively, either before or after a noun.

Another cohesive word that points is the specific article the. It has sometimes a general sense and sometimes a cohesive demonstrative sense, pointing to something already named or something closely related to a named object.

The cat is a common pet. (General, non-cohesive)
Henry found the whiskers. (Specific, cohesive)

Native speakers of English do not need to be taught to use the indefinite article a to introduce a subject and the definite article the to continue the discussion of it. They feel pleased, however, to learn that they already know a great deal more about good English than they had realized.

A more difficult kind of tie adds a comparison to the original reference. More, less, and the comparative forms of adjectives and adverbs have meaning only in relation to some other positive expression. If that other item is not mentioned, confusion can exist, as in misleading advertising.

New Superoo works faster. (Faster than old Superoo or faster than other brands?)

Superlatives are not cohesive in themselves because they are self-defining.

He heard a noisier cat. (Noisier than something else)

She climbed the highest mountain. (Independent, not cohesive)

To express comparison exactly, writers also use numbered order and specific words like same, similar, identical, such, alike, as, other, other than, different, else.

The test for referential cohesion is to find in another sentence the antecedent to which the tie refers.

Substitution and Omission Ties

In the closest possible relationship between sentences, writers can omit completely what they mean or substitute only an

extremely vague word for a noun phrase, a verb phrase, or a whole clause. Omissions are more common in speech, but they occur in cohesive writing also. Answers often omit parts of the question. A word like so, not, or yes or no can substitute for an entire clause.

> Some people say that the market can continue growing forever. A few of the legislators believe so too, but one senator thinks not.

A verb phrase may lose a word or words, including its object and its tense marker, mood, and voice. Often the writer substitutes do.

> Do you take this woman to be your lawful...?
> I do.

The extremely vague terms one and ones can replace a named noun and all its attributes. Some works in a similar way. Same can replace a count noun, a nominalized process, an attribute, or a fact.

> He hates all cats. He even hates imaginary ones. He hates some that are not worth hating. His wife feels the same.

In other cases an adjective or pronoun substitutes for a noun. Both comparatives and superlatives can perform this function, as can possessive pronouns forms in all persons.

> Eight million cars are being recalled.
> I worry about mine, yours, hers, his, each, many, one, two, six, more, lots, the good, the better ones, the best, the first, the next, the last.

To test for substitution cohesion, connect the substitute word with the original expression. To test for omissions, draw a caret where the complete expression could occur.

Conjunctive Ties

Listeners often infer the nature of conjunctive relationships without explicit statement. A value of writing, however, is that it specifies relationships exactly, because the original context and communicator are absent. Writing must make explicit what speech only implies. Conjunctive ties state specifically the nature of the relationship between the ideas of separate sentences.

Conjunctive ties can be grouped according to the type of the relationship that exists between the two sentences: addition, contrast, time order, cause, consequence, summary, or continuation. Examples include also, on the other hand, as a result, in conclusion, then. Conjunctive expressions can be longer than a single word; they often are prepositional phrases. Ideally, they appear near the beginning of sentences. They have adverbial functions. Sentences of transition usually contain conjunctive ties if not other types of cohesive ties.

Conjunctions within sentences give them internal coherence. To test the cohesive effect of a conjunction, draw lines from it to the two items it connects. One of the items will be the sentence with the conjunctive tie, but the other item will be a previous sentence.

Sequence of Tenses

Correct use of continuity of tenses make smooth, coherent writing. When writers make a shift in their approach to a topic, they may correctly change tenses or moods. Erroneous shifts in tense jar the readers; such errors may result from revisions or interruptions. Some students have so many problems with verbs that it is worthwhile to attend to them as frequently as possible.

Parallel Sentence Structure for Coordination

A pattern of similar, but not necessarily identical, sentence structure can match a similarity of meaning. Parallel sentences often contain several types of cohesive ties, such as repetitions of the same word, synonyms or associated words, tenses in sequence, and conjunctive ties for adding and contrasting. The parallel sentence structure matches and expresses coordinate thoughts, showing that the ideas have equal emphasis.

When one idea is subordinate to another, such as when it offers support or illustration, the sentence structure should reveal the unequal relationship. Otherwise, readers are misled. Beginning writers may tend to a monotonous repetitive sentence structure for both coordinate and subordinate development. The use of parallel sentence structure for subordination is an error, not a cohesive tie.

Parallel sentence structure resembles sequence of tenses because both are repeated methods of presenting related ideas

rather than repeated words. The cohesive effect of these methods is well known (Becker, 1965; D'Angelo, 1975; Christensen and Christensen, 1976). They often accompany the ties on the first part of the list, which comprises the system that Halliday and Hasan published in 1976 in Cohesion in English. An important reason for adding these last two cohesive features of a different nature to Halliday and Hasan's authoritative list is that students of basic writing often make errors with them.

THE MECHANICS OF WRITING

Adult basic writing students expect to work on the mechanics of grammar, punctuation, and usage because these surface conventions distract them from all other considerations, even from the most important consideration of the ideas that motivated the writing. Teachers face the three-fold problem of (1) holding the focus of attention on ideas, where it belongs, while (2) maintaining the conventional standards of edited English, and yet (3) preventing the conventions from inhibiting thoughtful writing.

The solution to the three-fold problem has three clues. One is to focus first on the purpose for writing: the ideas and content, of course, are primary. The second clue is to teach writing as a repeating process that includes the stages of thinking of ideas to express, organizing them, turning them into words on paper, revising them, and polishing them. The polishing or editing stage is the time for error analysis and correction. The expectation of a correction stage can allay some fears. The remaining fears may still inhibit adult students who lack the self-confidence to take risks and who truly do not know how to start. Therefore the third clue is to incorporate advice on mechanics into the instruction on planning the contents of a composition, using mechanics as methods of expressing the content, which is the purpose of mechanics anyway.

This solution is a top-down approach. That label means it starts with the top priority of the writer's purpose and then works down to incorporate details. It starts with the main idea

and ends with letters and punctuation marks. This approach of course parallels the top-down theory of reading comprehension. This approach gives hints of how to get started with the mental and rhetorical processes, because it shows how to handle the problematic forms and punctuation that express the mental and rhetorical processes. This approach can work naturally, but it needs to be done systematically, because a haphazard approach may be incomplete and confusing. This approach takes planning.

Adult students need an adult course, not one designed for seventh graders. What helped seventh graders need not be repeated. Other matters need a different approach. Adults have their own experiences, problems, and motivations that influence their learning.

ASSUMPTIONS AND CONTENT OF A COURSE IN BASIC WRITING

The rationale for a course in basic writing makes the following assumptions:

1. Rhetorical concepts such as audience, purpose, organization, etc. are guides to effective communication.
2. Rhetorical concepts require some mental effort from a writer.
3. Rhetorical concepts and their required mental processes are expressed in certain characteristic types of expression in written language. We call some expressions cohesive ties as they relate the content of one sentence to the content of another.
4. The characteristic expressions follow the standard conventions of edited English.
5. Basic writing students need to be taught whatever they do not already know in order to follow (a.) the conventions of edited English as well as to use (b.) the rhetorical concepts, (c.) the mental processes they require, and (d.) the cohesive expressions that relate them.
6. Students develop the skills needed for writing through specific instruction and creative communicative writing tasks that require combining the skills; composition is more than drills identifying separate items and hunting for errors.
7. The specific rhetorical, mental, expressive, and mechanical skills have general uses on an unlimited number of topics and can be taught and learned through a wide variety of methods. Good teachers will adapt to student needs and interests.

8. The specific mental processes probably develop naturally in a sequence from simple to complex, which only suggests a practical sequence for teaching them.
9. Writing is a messy, recursive process that improves ideas by going back over them, but for teaching purposes it includes the complex steps of (a.) generating ideas, (b.) drafting them, (c.) revising them, and (d.) editing them.
10. Although writing differs from speaking, if students in a basic writing class can already speak and read, they can learn the rhetorical, mental, expressive, and mechanical skills that writing requires.

Some of these assumptions are mentioned in "Standards for Basic Skills Writing Programs" (Tate, 1979). Others have been discussed in detail elsewhere. All of these assumptions led to the text, Tying Thinking to Writing. An instructor of writing wrote it in the second person to adult basic writing students. The "you" addressed is always the student writers. Their reading level is not assumed to be much beyond eighth or ninth grade levels, although it may be. Neither is it assumed that these particular methods and assignments are the only possible ways of teaching the material; other teachers with different strengths, personalities, and students will prefer variations. Tying Thinking to Writing is merely one possible way of combining and presenting matter that must be taught.

Course Activity

The first session of a writing course usually includes introductions, motivation, goals and purposes of the course, and probably verification of placement. This is the ideal time to discuss also the goals and communicative or rhetorical purposes of writing. It is the time to begin discussing with students their self-awareness and motivation, reminding them of their values, because many students face the first day with doubts, hesitation, and self-consciousness. Asking students to name their majors gets classmates acquainted and gives each a chance to speak without fear of being wrong. The teacher can respond by commenting briefly on the kind of writing done in each line of work mentioned. Comments can encourage undecided students to be independent and advise them where to go on campus for guidance.

The placement writing assignment can introduce the student as a person and as a writer to the teacher. This assignment demonstrates the basic rhetorical concepts of purpose and audience. Leading questions can get students to begin thinking about their own experiences and goals in writing as well as give the instructor useful information about each student. Teachers can honestly admit that they will judge each student by the quality of the writing, which is what a reader does. Teachers can alleviate worry, however by reminding the class that anyone who writes too well will be transferred to a more challenging class, while students who turn in less than their best will face wasteful individualized lessons on what they have already learned but were too careless to perform. Ideally, conferences will solve

such problems and convince each student: "The teachers knows me, my goals, my strengths, and my weaknesses, and will help me."

Composition courses often begin with description because it tends to have the simplest syntax. Description encourages perception of details. It focuses on a subject and thus illustrates the role of the subject in a sentence. Discussion of sentence structure quickly gets complicated with the concepts of predication and completeness. For simplicity, separating the subject role seems wise. Teaching pronouns within description clarifies the focus on the subject. Pronouns perform one of the first mental processes that students must practice: holding attention on the subject.

Pronouns appear often in introduction assignments. Students have seen television interviews and can easily imagine how to conduct a simple one with a partner. A natural and friendly way to begin a writing course is to have students read aloud to the class introductions of their partners.

Along with composition assignments, students need drills that provide a rhetorical content of audience and purpose. Without context, students can assume that writing may be purposeless and meaningless. Since the meaning of pronouns is in their antecedents, classes that like games might like antecedent hunts. Other description exercises that combine form and content include cloze exercises with blanks to fill in with pronouns, and also readings on topics that can be changed from singular to plural, or vice versa. The best grammar on pronoun case is the least. It may suffice to distinguish briefly the subject forms with long

vowels at the beginning of sentences and the object forms with short vowels and m's or r's that appear later.

Pronouns serve another useful purpose when they show how a composition course works, without sacrificing an essential element to sessions that might be missed by students who enroll late. The prompt portion of the class can develop a good sense of subjects before work on completing sentences. Verbs are important. Predication is important. To be realistic, however, a beginning description task asks for sentence fragments in a lost-and-found want ad. Then the next assignment puts the content of the want-ad into the format of a letter.

Students can quickly suggest a long list of ways to extend a descriptive sentence. Competing for length makes a good game. Good ways to report details perceived are cumulative techniques, such as appositives, and lists with colons. After reviewing the use and punctuation of simple additive ties like also, too, and and, students search, observe, and cite further details. Suddenly devices for separating sentences become functional. Their value will increase later, however, so sentence separation will not have to be mastered immediately. Sentence-combining exercises give good practice here.

Writing courses that do not begin with description often begin with definition. Identification and definition overlap so many kinds of writing that an early introduction to them is easy to justify, even if the advanced fine points of classification must be delayed. Definition is a major type of predication, and

it illustrates well the standard English requirements for the verb to be. Definition also suggests teaching synonyms. Little need be taught about repetitions and demonstratives, but that little belongs here. The major grammatical focus in definition can be number agreement, because definitions switch so often between singular and plural, yet a habitual present tense dominates. Adding -s to nouns and verbs is a further problem demanding attention here; it makes a good spelling lesson.

Simple definition assignments abound in technical topics and hobbies. More difficult is defining a cultural custom. Both topics have a natural peer audience and convince student writers that they are, in their own uniqueness, authorities on topics worth writing about.

Definition leads to comparisons and contrasts, which require comparative forms. Writers can compare themselves to persons of a different age, to objects, and to themselves in the future. For such assignments, students need modifier forms. Completing a comparison with like or as may raise again the problem of where a sentence ends. Now the students are ready to master that matter and forever after be held responsible for it. Their responsibilities build up, cumulatively. They can learn several different methods of separating clauses: periods with capitals; semicolons with or without transition words; and certain coordinate conjunctions with commas. Subordination with conjunctions or relative clauses needs an introduction here, but its natural emphasis comes in logical reasoning and problem-solving.

Contrasts require finding differences which, like hunting for similarities, makes a challenging game. Contrasts take words like but and the more literate however, which students must learn to distinguish from expressions like and, also, too, moreover, and in addition. Students must master both the meaning and the punctuation of these words. Cloze exercises with blanks to fill in can foster a worthwhile discussion of the choices.

In connection with contrast, negation needs to be taught. Matching meanings of negative and near-negative words with their definitions is hard for many basic students. Especially difficult are the concepts of not only, scarcely, almost, and indirect questions and indefinite pronouns with negatives. Students need to know how to be as positive as possible, to limit the number of negatives in a clause, and to use apostrophes in contractions. Good practice assignments on contrast include advertising and writing on both sides of a purchasing decision. Topics with before-and-after viewpoints teach point of view, contrast, and time order.

Students can analyze the indications of time sequence when they have to re-assemble separated comic strips, sentences, or paragraphs. They need these indicators when they each contribute an episode to a class story and when they give instructions on repairing a broken object. The class story motivates proofreading. Past tenses, especially irregular ones, are often difficult. Even harder is the logic of past participles and

future perfect. It is not easy to explain how someone will have done what is now not yet begun. Cloze exercises can provide a context for verb forms. Cues make the cloze drills easier.

Writers must distinguish time sequence from causation; they may learn to do so by writing about superstitions. In cause-effect reasoning, writers may want to insert extra information which is often called non-restrictive, although that term confuses students. The problem-solving unit is a good place to handle subordinate clauses and their punctuation. Students may learn from wrestling with Dear Abby's decisions how to distinguish which ideas merit a main clause and which need subordination. Setting priorities in writing clarifies the process of setting priorities in living.

Students have advanced a long way if they are able to generalize or abstract the key element that solves a problem. As they practice classification, they will pay extra attention to suffixes that help them extend their vocabularies. They can practice on the abstracting skill by writing scales that range from specific to general; then they can apply the skill in compositions that vary with their ability: compositions ranging from a fable with a moral, through a sermon with examples, to plans on reaching personal goals, and exemplified definitions of abstract values. Some students prefer to see a chart or diagram of a topic, so they get examples and instructions on using charts.

Titling a picture will abstract and summarize its content. It is a concrete exercise to introduce the concept of summarizing. Related skills are quoting and paraphrasing, and incidental ones are capitalization and punctuation of introductory expressions. After students practice summarizing their own work, summary can become a study method for textbooks in other courses and a technique for writing their own plans.

Summaries written in advance provide guidance for action and for further writing, because they specify a central idea. Summarizing can lead to the all-American fifty-star five-paragraph thesis developed theme. Teachers who cover it can easily work it in here, along with formal outlining if they wish. Topic sentences also may be summaries. Introductions are easier to write after summaries than before them.

The highly-structured thesis-developed theme exemplifies large-scale controlling patterns. Its weakness is that it is confining; it restricts recursion and exciting development of ideas during the writing process. It does, however, serve a limited pedagogical purpose. When such a theme is ready for polishing, students should see both large-scale and small-scale parallel structures. In the polishing step, students use transitions to smooth the continuity between topics. Variations of sentence-combining exercises can provide raw material for drill on smooth transitions.

Before the end of a basic writing course, spelling usually gets attention. Spelling involves hearing, visualization, logic, modeling, memory, and valuing. Apostrophes and final

consonants are part of spelling. They can be treated like silent letters when they result from dialect variations. Spelling instruction pays off more when it is based on individual lists of misspelled words. Students vary in their spelling needs as they do in vocabulary needs. They will feel encouraged some to realize that their errors run in patterns, and that they have mastered patterns that other students still struggle with. Most students feel more pride than intimidation when they are told a two-hundred word report they have finished was a two-hundred word spelling test.

Proofreading, revisions, and evaluation run into one another, but they deserve separate attention. Proofreaders can reconsider the audience's need for a specific tone and then, naturally, the methods of achieving it, such as omissions and substitution. Revision can include broad matters; it is literally looking again at the topic. Writers know their topic better after they have once organized their thoughts. In revision, they can consider themselves more authoritative than before. They can feel themselves authorized to send their knowledge to less-informed readers. The natural route for written messages is more-informed to less-informed. That route holds for technical writing even when the audience is higher levels of management, because such readers maintain distance from daily details. Such a route, however, is the reverse of most unnatural school writing, which is written to a teacher as audience. In school writing the criteria for including a fact is the need to convince the instructor of the writer's knowledge of the fact, not its relevance or value.

To evaluate an idea is literally to state its value. Basic writers need some practice judging the value of their ideas during revision. A concept not worth discussing is not worth polishing. Basic writers need to learn how to decide what to expand and what to condense.

Evaluating a composition resembles evaluating a course. Students should learn how to do both. A habit of self-evaluation will enable a student to continue learning long after the course is done. Moreover, the effects of writing continue far beyond the obvious immediate feedback from the reader. By writing, students develop their points of view and become authorities. They remember what they have written. Twenty years later they may not even recognize the outline of a course they studied, but they can discuss the conclusions of the reports they wrote.

For evaluation to mean much, revision needs to be included. Writers do not stop developing their thoughts on a topic after they submit their composition.

Steps for Discovering What to Write

Writers need methods of finding ideas. The heuristic device presented in Tying Thinking to Writing is a series of questions. It appears in a general outline form in the first unit and then in seven variations in later units, near assignments calling for specific types of writing. The "Steps for Pre-Writing and Drafting" show how to collect details and how to select and arrange them to develop the support.

Necessary Words and Useful Words

The first page of each unit lists two types of vocabulary items. The first type is words needed for any thoughtful discussion of the topic; students should learn all of these words. The second type is words that some teachers consider essential but that others teaches may be able to avoid. Some of these words are defined in the text or used only once. Some have useful general meanings that students may need to learn.

There is no further list of technical terms that relate to the topics listed because teachers of basic writing would do well to avoid using such terms with students. Technical terms are useful for teachers and advanced writers, but they can intimidate beginners. Technical terms are examples of the type of knowledge instructors need to know but not teach. An analogy is the physician's knowledge of the rare jungle diseases that he distinguishes from simple athlete's foot. The physician needs extensive knowledge to be certain of a diagnosis, but the patient needs only the application of the knowledge. When a relevant term does not appear on either list, an instructor should find a way to paraphrase the concept. Students have enough work learning to write without being distracted learning fine grammatical distinctions or definitions that do not help their writing.

Reading Level and Pre-Teaching

Tying Thinking to Writing is written for students who read at the eighth or ninth grade level. Part of their problem

writing may be that they do not know what it is that they are attempting to produce. They certainly need instruction in reading improvement; the work in this course should increase their reading skill, although adequate testing on this point has not yet been done.

At this stage, an instructor cannot assume that students feel so comfortable with reading that they absorb everything they see. Pre-teaching is necessary. Telling students in advance what a unit contains helps them set expectations that enable them to read and follow instructions more easily. Ideally an instructor at this level will teach the content of the unit and let the text serve as reference notes. Students will learn in unit ten how to take notes on their reading, and they can then try to transfer the skill to make lecture notes. Attempting too much at once, however, can overload and thus discourage students.

Variations in Assignments

Games can add pleasure to learning. Tying Thinking to Writing suggests some games as learning activities. Teachers who enjoy such methods can add more by adapting other exercises to a game format. Teachers who prefer more or less work done in small groups can easily adapt assignments. A regular journal requirement could accompany the other assignments. A lab is useful but not necessary. Teachers who wish to supplement with more grammar exercises will find obvious

occasions to do so.

Nowhere does the author assume that a single method excels for teaching any point. Indeed, one purpose of a good instructor is to adapt the given content to the specific methods by which individual students learn best. The unit aids only begin to suggest possible variations. Although the sequence of this course is carefully planned, sometimes student interests may modify the plan. The index can guide variations or suggest patience for students and teachers who want to look ahead.

Objectives and Tests

Each unit begins with a list of objectives that can be called tests or major assignments. The objectives correspond with assignments late in the units. A student who does all the assignments will be completing all of the objectives.

Major assignments in units 2, 4, 6, 7, 10, 12, and 14 create a series of papers that can serve for grading purposes. More importantly, this sequence can show students their progress as they move through the seven major two-unit sections of the course. This sequence corresponds with the following list of mastery objectives.

1. Write a descriptive paragraph with enough supporting detail to suit the purpose of the description. Use pronouns correctly to hold your readers' attention on something named in an earlier sentence.

2. Define and describe something that is new or strange to your readers. Add details at the end of a base sentence. Add complete sentences with further information, using tie words that show what you are doing. Separate your sentences properly. Refer repeatedly to your subject; use synonyms or related words for it, besides personal pronouns; use demonstrative pronouns that point to it. Make your verbs agree with their singular or plural subjects in number.
3. Show how two things are alike and different. Use proper adjective and adverb forms and words that express the degree of difference. Use negatives properly. Combine short closely-related sentences with a semicolon.
4. Write a story arranged in straight forward time order, showing causes and effects. Use past-tense verb forms properly.
5. Write an accurate summary. Move smoothly between higher generalities and lower level specifics. Use appropriate vocabulary. Give credit to your source of information. Quote properly, either directly or indirectly.
6. Write a structured report organized according to a thesis statement in the introductory paragraph. Relate a topic sentence in each body paragraph to the thesis sentence. Develop each topic sentence with a full paragraph of support, ending with a concluding sentence. Then make a smooth transition to your next topic sentence and develop it. End with a good conclusion or summary. Use parallel sentence structures whenever possible for coordinate items.

7. Review some assignment that you wrote earlier in the semester. Evaluate its strengths and weaknesses. Revise or rewrite it, improving its tone. Change its length if you wish. Make it meet the needs of the audience better. Spell all the words correctly. Show how much your writing has improved this semester.

These mastery objectives have a general form so that teachers who want pretest assignments can fashion them easily.

The learning tasks between the major assignments vary in the amount of checking they require. Students, tutors, or lab assistants of various levels can help check if they understand the purpose of the tasks and how much acceptable responses can vary.

Attitudes and Examples

Writing does more than improve thinking. It improves writers' attitudes towards themselves because they can take pride in their power to control their creation. Writers need to feel authorized to express themselves. Students often need to improve their image of themselves. Aiding such improvement is one criterion for selecting assignments and material for examples. Some material was written by a psychologist specifically for adult students in basic writing courses. Other readings also develop the strength of the individual making decisions, improvements, revisions, and plans for a full life. Finally, further support comes from the instructor who has confidence that students can learn.

EXPERIMENTAL STUDY OF TYING THINKING TO WRITING

An early form of Tying Thinking to Writing was tested to find out if basic writing students improve the quality of their writing when they study the mental processes, the usage, and the rhetorical communicative purposes of cohesive ties. Two instructors (not the author or researcher) taught the control group in their usual manners. Then they taught the experimental course, and the researcher compared the progress of control students with the progress of experimental students.

Pretests and posttests were timed essays on four matched topics in two modes, persuasive and expository. Progress was measured in two ways. One was the rating on pretest and posttest writing samples, graded anonymously with a six-point holistic rubric. The second measure counted the number of different types of cohesive ties on each of the same sample essays. For this purpose the researcher designed a form to record which of eighteen types of cohesive ties appeared in the sample: pronoun, demonstrative, comparative; same word, association, higher category, general noun; substitution or omission of noun, of verb, of clause; conjunction for addition, contrast, cause, result, continuity, time; sequence of tenses, and parallel sentence structure.

The experimental group was all the Spring, 1980, sections of a basic writing course at College of the Mainland, a community college in Texas City, Texas. The control group was the Fall, 1979, sections of the same course. Trained, paid teachers not acquainted with the experiment evaluated the overall quality of the essays, holistically. Other trained, paid raters tabulated the types of cohesive ties in each essay. Each of the 316 essays

was scored twice for a holistic rating and twice for cohesion. Then the scores were correlated.

Statistics reported include correlation of holistic score and number of types of cohesive ties, analysis of variance of difference scores on the holistic measure and on the types of cohesive ties for two modes, and comparison of instructors, counting both experimental and control students.

Results show that the number of types of cohesive ties that students used did correlate positively with writing competence as shown in the holistic score. Students in the one experimental group that received the complete treatment as planned did gain significantly more than the control group in both types of ties used and in holistic score. A complete report of this research appears in the doctoral dissertation of Carolyn G. Hartnett, Cohesion as a Teachable Measure of Writing Competence (Indiana University of Pennsylvania, 1980, available through University Microfilms, Ann Arbor, Michigan, No. 8026168).

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